ways; but the first fundamental improvement was the self-centering table of Dr. Matthews, which centered the slide for width only between jaws swinging on opposite posts and held it in place by means of a sliding wedge. This method is greatly simplified without at all impairing its efficiency, by discarding the wedge and jaws and centering by the posts alone, in the table contrived and now made by Mr. Zentmayer. Mr. Cox has undisputed priority in the expedient which now surpasses all others, and seems likely to continue to do so, of centering for both width and length by grasping the diagonally opposite corners of the slide between jaws that move automatically towards or from the center, after the manner of the different forms of American scroll chucks. In Mr. Cox's table, now well known, the jaws are moved by a horizontal screw, with right and left threads on the opposite ends, under the revolving plate. Mr. Kinne adopted independently, but published subsequently, the same principle, but moved the jaws by a lever instead of a screw. Mr. Bulloch's table is essentially a modification of the Cox table, but moves the jaws by a scroll screw on the surface of a revolving plate, precisely as is done in the scroll chucks of the machinists. The revolving table is made double, of two horizontal plates, the jaws sliding through the upper plate by means of a screw on the upper surface of the lower plate, thus securing a very steady as well as convenient and durable adjustment. In addition to this, the posts and clips are added after Mr. Zentmayer's method, by which the slide may be centered for width only. or under which it may be adjusted artificially by means of concentric rings as in the early forms of tables. The workmanship is good beyond comparison with anything of the kind except the one last mentioned; and the instrument, at its moderate price, can be commended as a real luxury to any one who desires a more elaborate form than that. It is one of the little things that are a great comfort.

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SCIENTIFIC NEWS.

— Recent arrivals at the Philadelphia Zoölogical Garden: 1 great-horned owl (*Bubo virginianus*), presented; 1 zebu (*Bos indicus*) ♀, India, born in the Garden; 1 crested anolis (*Anolis equestris*), and 1 tree boa (*Epicrates angulifer*), West Indies, presented; 2 Cashmere goats (*Capra hircus var.*) ♀, born in the Garden; 2 woodchucks (*Arctomys monax*), presented; 1 raccoon (*Procyon lotor*), presented; 1 common seal (*Phoca vitulina*) ♀, purchased; 1 macaque monkey (*Macacus nemestrinus*) ♀ India, born in the Garden; 3 alligators (*Alligator mississippiensis*), presented; 1 herring gull (*Larus argentatus*); 4 sirens (*Siren lacertina*), Southeastern U. S., presented; 2 spotted salamanders (*Salamandra maculosa*), Europe and North Africa, presented; 1 bactrian camel (*Camelus bactrianus*) ♂, Asia, born in the Garden.—*Arthur E. Brown, Genl. Supt., April* 1, 1878.

— It is with great sorrow that we announce the sudden death of Prof. Charles Frederic Hartt, Chief of the Brazilian Geological Commission. He died at Rio de Janeiro, March 18. His untimely death is a great calamity, as, after nearly three years of constant exploration over a large part of Brazil, he had begun to prepare for publication the results of the researches of himself and assistants, Messrs. Derby and Rathbun. He was born at Fredericton, New Brunswick, in 1840, and graduated at Acadia College at Wolfville, Nova Scotia. He was a student under Agassiz from 1862 until 1865, and during that time investigated the Devonian plant and insect beds of St. John, and made important researches in the Cambrian fossils of the Acadian series at St. John. He then accompanied Agassiz as Geologist of his journey up the Amazon and subsequently made three visits to the coast regions, and the results of his explorations are comprised in his work on "The Geology and Physical Geography of Brazil," published in 1870. Several years previous he was appointed Professor of Geology and Physical Geography at Cornell University. He made a specialty of Brazilian geology, and mastered the Portuguese language, investigated the natural history and archæology of that country, and so identified himself with its physical history that it seemed as a matter of course that the Emperor of Brazil should honor himself by appointing the young explorer Chief of the Imperial Geological Commission. This was in May, 1875; since then his studies have extended widely over the Empire, including the unraveling of the geology of the Amazon, consisting of Silurian, Devonian and Carboniferous rocks, the thorough examination of the coast and interior of the Province of Pernambuco, a reconnaissance of the diamond and gold districts of Minas Geraes, the examination of large areas in San Paulo and Santa Catharina. The survey had collected enormous quantities of fossils and zoölogical material from the Corniferous and Carboniferous formations in the Amazonian valley, large numbers of remains of vertebrates and invertebrates from Pernambuco, including many new reptilian and amphibian forms, mainly cretaceous. For the last six months but little field work had been done and publication was progressing rapidly. Prof. Hartt also made a thorough study of the coral reefs of the coast of Pernambuco, including ancient and modern forms. He also amassed many facts regarding the language, manners and customs of the Tupis, Guaranis and other Indian tribes, and Brazilian archæology.

Professor Hartt, besides being a geologist, palæontologist and zoölogist, was a capital linguist and philologist. He had powers of rapid acquisition and great versatility. He was a person of warm sympathies, and of a cheerful, light-hearted spirit that endeared him to all with whom he came in contact. To the readers of this journal, to which he often contributed on geological and

archæological subjects, his powers of exposition are well known. His death is a serious blow to American science. All will deplore his loss; his memory will be cherished by his fellow-students and associates who knew him best and appreciated his moral worth and his intellectual and scientific attainments.

— Dr. Charles Pickering died in Boston March 18. He was born in Susquehanna Co., Pennsylvania, Nov. 10, 1805. He was a graduate of Harvard, in the class of 1823, and of the Medical College in 1826. He was a member of the American Academy of Arts and Sciences, and of the American Philosophical Society; was the Naturalist of the U. S. Exploring Expedition under Commodore Wilkes in 1838–1842; practiced medicine in Philadelphia for several years, and afterwards removed to Boston. Besides his report of the Exploring Expedition he was the author of several valuable scientific publications.

The exploring expedition returned, leaving certain countries that required to be visited to complete the survey of the globe. Accordingly, after remaining a little over a year at Washington, Dr. Pickering set out alone in 1843 for Malta, Egypt, down the Red sea to Zanzibar, and thence to Bombay, returning after an absence of twenty-two months. He then prepared and published his work on The Races of Man and their Geographical Distribution.

Robert Swinhoe, well known as a writer on East Indian ornithology, etc., died in London, October 28, 1877, at the age of 41 years.

Francois Vincent Raspail, the French botanist, well known for his studies on the grasses, and his Nouveau Système de Physiologie Végétale et de Botanique, died near Paris, January 6th, aged 87 years.

John J. Monteiro, the author of Angola and the River Congo, which we noticed in the last number of this journal, lately died at Delagoa bay.

— I inadvertently, in your January number, gave credence to the statement of Pouchet, the Curator of the Museum at Rouen, in regard to certain changes alleged to have taken place in the nests of the house martin (*Chelidon urbica*); I had repeatedly seen the statement and was unaware that its correctness had ever been challenged. I learn from my friend, Prof. Newton, that there is nothing in the alleged progress in nest-building on the part of the martin whatever. The nest that is so well built is that of the sea mow (*Hirundo rustica*), while that of the martin continues unimproved. This matter was set right some years ago in the Zoölogical Record, but seems to have escaped notice, as the wonderful story of M. Pouchet still goes on its rounds unchallenged.—*T. M. Brewer.*

— Thanks to the interest taken in the young and vigorous Academy of Science at Davenport, Iowa, by one or two of the citizens and members, a new building well adapted to the wants of the Society has just been finished, one or two meetings having been held in it. The second part of its Proceedings will appear at an early date.

— Capt. Howgate's bill for establishing a Polar Colony has met with a favorable hearing by the Congressional committee, and it seems most probable that Congress will appropriate $50,000 for the undertaking, which promises so much for the advancement of Polar research.

— The third session of the Summer School of Biology will be opened at the Museum of the Peabody Academy of Science, Salem, Mass., beginning July 5th, and continuing six weeks. A lecture will be given each Monday, Tuesday, Wednesday, Thursday and Friday at 9 A. M., the remainder of the time to be given to laboratory work and demonstrations, as it is designed to make the course a practical one, so that teachers may learn the *method of study and teaching in Natural History*. During the present session special attention will be given to Entomology, the study of Spiders and Crustacea, as well as the Anatomy of Vertebrates, and the study of Animal Tissues.

Instruction in Zoology will be given by Dr. A. S. Packard, Jr., with the assistance of Messrs. Charles Sedgwick Minot, James H. Emerton, and J. S. Kingsley. Mr. Minot will lecture on Histology and on the Anatomy of Vertebrates. Mr. Emerton will lecture on Spiders, Scorpions and Mites, Mr. Kingsley on the Crustacea, and Dr. Packard will give a course of lectures on the lower animals and the Insects. Rev. Dr. Bolles will give a series of six afternoon lectures on Microscopy, at 3 P. M., beginning July 12.

For further information apply to A. S. Packard, Jr., Director, Peabody Academy of Science, Salem, Mass.

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PROCEEDINGS OF SCIENTIFIC SOCIETIES.

BOSTON SOCIETY OF NATURAL HISTORY. — March 6. Mr. S. H. Scudder made a communication on Prodryas, a new fossil butterfly from the tertiary beds of Colorado.

On March 20, Prof. A. H. Niles read some notes upon the erosive power of the glaciers and sub-glacial streams of the Alps, based on a summer's exploration. He took the view that a large part of the erosive action was carried on by the running water of the sub-glacial streams, rather than by the ice itself, which, however, accomplished the polishing and scratching. Dr. David Hunt spoke of a possible cause of prognathism.

April 3d.—Prof. B. G. Wilder exhibited living specimens of Amia, and spoke of its ærial respiration, and Mr. S. H. Scudder remarked on the early life of some tertiary insects, and particularly on the eggs of a fossil Corydalus (hellgramite).